

Biological Classification MCQ Question Answer

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Question: 1. Which of the following characteristic(s) is used by Whittaker for the classification of organisms ?

- Option A. Mode of nutrition
- Option B. Thallus organisation
- Option C. Phylogenetic relationships
- Option D. All of the above

Question: 2. Which of the following kingdom does not have nuclear membrane ?

- Option A. Protista
- Option B. Fungi
- Option C. Monera
- Option D. Plantae

Question: 3. Protists are

- Option A. single-celled eukaryotes.
- Option B. multicellular eukaryotes.
- Option C. single-celled prokaryotes.
- Option D. single-celled akaryote.

Question: 4. Which of the following pigment is present in cyanobacteria?

- Option A. Chlorophyll a
- Option B. Chlorophyll b
- Option C. Chlorophyll c
- Option D. Chlorophyll d

Question: 5. Which of the following is smallest living cell and can live without oxygen ?

- Option A. Mycoplasma
- Option B. Mycorrhiza
- Option C. Euglena
- Option D. Trypanosoma

Question: 6. Which of the following processes involved in the reproduction of protists ?

- Option A. Binary fission and budding
- Option B. Cell fusion and zygote formation
- Option C. Spore formation and cyst formation
- Option D. All of the above

Question: 7. Which of the following pairs comes under the group chrysophytes ?

- Option A. Diatoms and Euglena
- Option B. Euglena and Trypanosoma
- Option C. Diatoms and Desmids
- Option D. Gonyaulax and Desmids

Question: 8. Which of the following is an example of amoeboid protozoans ?

- Option A. Trypanosoma
- Option B. Paramecium
- Option C. Gonyaulax
- Option D. Entamoeba

Question: 9. Which of the following is a parasitic fungi on the mustard plant ?

- Option A. Albugo
- Option B. Puccinia
- Option C. Yeast
- Option D. Ustilago

Question: 10. Which of the following is used extensively in biochemical and genetic work ?

- Option A. Agaricus
- Option B. Alternaria
- Option C. Neurospora
- Option D. Mucor

Question: 11. Which of the following is/are example(s) of deuteromycetes?

- Option A. Alternaria
- Option B. Colletotrichum
- Option C. Trichoderma
- Option D. All of these

Question: 12. Which group of fungi is commonly known as imperfect fungi ?

- Option A. Phycomycetes
- Option B. Ascomycetes
- Option C. Basidiomycetes
- Option D. Deuteromycetes

Question: 13. Bladderwort and Venus fly trap are examples of

- Option A. insectivorous plants
- Option B. parasitic plants
- Option C. N₂ rich plants
- Option D. aquatic plants

Question: 14. The subunit of capsid is called

- Option A. core
- Option B. nucleotide
- Option C. amino acid
- Option D. capsomere

Question: 15. Which of the following is not a viral disease ?

- Option A. AIDS and mumps
- Option B. Small pox and herpes
- Option C. Influenza
- Option D. Cholera

Question: 16. The symbiotic association of fungi and algae is called

- Option A. lichen
- Option B. mycorrhiza
- Option C. rhizome
- Option D. endomycorrhiza

Question: 17. The genetic material of virus includes

- Option A. only RNA.
- Option B. only DNA.
- Option C. RNA and DNA both
- Option D. RNA or DNA i.e. one nucleic acid in a virus.

Question: 18. Dikaryon formation is the characteristic feature of

- Option A. ascomycetes and basidiomycetes.
- Option B. phycomycetes and basidiomycetes.
- Option C. ascomycetes and phycomycetes.
- Option D. phycomycetes and zygomycetes.

Question: 19. Clamp connection is found in

- Option A. basidiomycetes
- Option B. ascomycetes
- Option C. saccharomycetes
- Option D. haplomycetes

Question: 20. Plasmogamy is the fusion of

- Option A. two haploid cells including their nuclei.
- Option B. two haploid cells without nuclear fusion.
- Option C. sperm and egg.
- Option D. sperm and two polar nuclei.

Question: 21. Which scientist classify plants into trees, shrubs and herbs & animals into two groups having red blood cells and without red blood cells?

- Option A. Aristotle
- Option B. R. H. Whittaker
- Option C. D. J. Ivanowsky
- Option D. W. M. Stanley

Question: 22. Fungi are filamentous with the exception of X which is unicellular. Identify X.

- Option A. Yeast
- Option B. Algae
- Option C. Bacteria
- Option D. Lichen

Question: 23. The bacteria which oxidize various inorganic substances and use the released energy for their ATP production are called _____.

- Option A. Archaeobacteria
- Option B. Heterotrophic bacteria
- Option C. Photosynthetic autotrophic bacteria
- Option D. Chemosynthetic autotrophic bacteria

Question: 24. Protista includes

- Option A. unicellular eukaryotes with well-defined nucleus only.
- Option B. unicellular prokaryotes with membrane bound organelles.
- Option C. unicellular eukaryotes with well-defined nucleus and membrane bound organelles.
- Option D. both unicellular and multicellular eukaryotes with welldefined nucleus and membrane bound organelles.

Question: 25. Which statement is not correct for viruses ?

- Option A. Viruses are obligate parasites.
- Option B. Viruses can multiply only when they are inside the living cells.
- Option C. Viruses cannot pass through bacterial filters.
- Option D. Viruses are made up of protein and DNA or RNA (never both DNA and RNA).

Question: 26. Which one of the following statement is correct for archaea?

- Option A. Archaea resemble eukaryotes in all respects.
- Option B. Archaea have some novel features that are absent in other prokaryotes and eukaryotes.
- Option C. Archaea completely differ from both prokaryotes and eukaryotes.
- Option D. Archaea completely differ from prokaryotes.

Question: 27. Which of the following statement is not correct for methanogens?

- Option A. They are archaeobacteria.
- Option B. They live in marshy areas.
- Option C. Methane is their preferred carbon source.
- Option D. They are present in guts of several ruminant animals (cow, buffaloes) and produce biogas (CH₄) from the dung of these animals.

Question: 28. Which of the following statement is correct for both bluegreen algae and bacteria ?

Option A. Both show anaerobic respiration.

Option B. Both have chlorophyll pigment.

Option C. Both are devoid of true nucleus.

Option D. None of the above

Question: 29. Which of the following statement is incorrect ?

Option A. TMV has a double-stranded RNA molecule.

Option B. Most plant viruses are RNA viruses.

Option C. The bacteriophage has a double-stranded DNA molecule.

Option D. Most animal viruses are DNA viruses.

Question: 30. Which of the following statement is/ are correct for bacteria ?

Option A. They are the members of the kingdom monera.

Option B. They live in extreme habitats such as hot springs, deserts, snow and deep oceans.

Option C. They show the most extensive metabolic diversity.

Option D. All of the above

Answer Sheet

1	D	R.H. Whittaker (1969) proposed a five kingdom classification. The main criteria for classification used by him include cell structure, thallus organisation, mode of nutrition, reproduction and phylogenetic relationships.
2	C	Monera is the group of prokaryotes. They are basically unicellular, may be mycelial, colonial and filamentous. They do not contain any organized nucleus with distinct membrane.
3	A	Haeckel created the kingdom Protista to include all unicellular eukaryotic micro-organisms. They have a typical eukaryotic structure with membrane bound organelles and nucleus.
4	A	The cyanobacteria or blue-green algae are the largest and most diverse group of photosynthetic bacteria. They have chlorophyll a similar to green plants. They are the first organisms to make atmosphere acrobic.
5	A	Mycoplasma are the simplest or smallest known organisms that completely lack a cell wall and can survive without oxygen.
6	D	In protists, reproduction takes place by means of asexual and sexual methods. Asexual reproduction occurs through binary fission (e.g. Euglena), cyst formation (e.g., Entamoeba), budding, sporulation, etc. In sexual reproduction, fertilization occurs through syngamy and conjugation.
7	C	Chrysophytes are a group of diatoms, golden algae (desmids) and golden brown photosynthetic microscopic protists. Their body is covered by a transparent siliceous shell.

8	D	Amoeboid protozoans are organisms that live in fresh water, sea water or moist soil. They move and capture their prey by putting out pseudopodia (e.g. Amoeba). Some of them such as Entamoeba are parasites.
9	A	Albugo, the parasitic fungi on mustard belongs to the class phycomycetes, kingdom fungi.
10	C	Neurospora belongs to class ascomycetes, kingdom Fungi. It is used extensively in biochemical and genetic work.
11	D	Deuteromycetes is also known as fungi imperfecti because the perfect (sexual) stage is either absent or not reported. Alternaria, Colletotrichum and Trichoderma belongs to deuteromycetes.
12	D	Deuteromycetes is commonly known as fungi imperfecti due to absence of perfect sexual stage. They are classed by the colour and structure of the conidia. Since most of the conidia structures look like ascomycetes type, they are believed to be derived from ascos who lost the ability to reproduce sexually.
13	A	A small group of autotrophic plants catch small animals and insects for obtaining nitrogen. They are called carnivorous or insectivorous plants e.g., Pitcher plant.
14	D	The capsomere is a subunit of the capsid, an outer covering of protein that protects the genetic material of a virus. Capsomeres self-assemble to form the capsid.
15	D	Cholera is a bacterial disease caused by the pathogen, Vibrio cholerae.
16	A	The symbiotic association of fungi and algae is called Lichen. In lichen, there are two components i.e., algal partner called phycobiont and fungal partner called mycobiont.
17	D	Viruses are obligate intracellular parasite which can reproduce only by invading and taking over other cells as they lack the cellular machinery for self reproduction. Viruses have either DNA or RNA as the genetic material. Viruses having RNA as the genetic material are known as Retroviruses.
18	A	In fungi (ascomycetes and basidiomycetes), karyogamy is delayed and occurs just before meiosis. In the stage intervening between plasmogamy and karyogamy the cells often contain two nuclei or dikaryons ($n + n$). Such cells are called dikaryotic cells. The phase is known as dikaryophase.
19	A	In many members of basidiomycetes cell division accompanied by clamp connection. These are bridge (hook) like connection. They function as bypass hyphae through which nuclei migrate to make all of mycelium dikaryotic.
20	B	Plasmogamy is the first stage of sexual reproduction in which the cytoplasm of two sex cells fuse with each other. The nuclei of sex cells come close to each other but do not fuse. Thus, the resulting cell becomes binucleate or dikaryon.
21	A	Aristotle was the earliest to attempt a more scientific basis of classification. He classified plants into trees, shrubs and herbs on the basis of simple morphological characters & animals into two groups having red blood cells and without red blood cells.
22	A	Yeast is a unicellular fungus. It is a microscopic fungus consisting of single oval cell that reproduces by budding, and capable of converting sugar into alcohol and carbon

		dioxide.
23	D	Chemosynthetic autotrophic bacteria use the energy obtained by the oxidation of chemicals for the synthesis of food. They play a great role in recycling of nutrients like nitrogen, phosphorous, iron and sulphur.
24	C	Protista is unicellular eukaryotes with well-defined nucleus and membrane bound organelles.
25	C	Virus is a small infectious agent that replicates only inside the living cells of other organisms. Viruses can infect all types of life forms, from animals and plants to microorganisms, including bacteria and archaea. Viruses can pass through bacterial proof filters as they are smaller than bacteria.
26	B	Archaeobacteria are found in most harsh habitats. Their cell wall is adapted to tolerate extreme conditions (wall contains protein and non-cellulosic polysaccharides). Cell membranes are characterized by the presence of branched chain lipids that make them highly resistant to heat and low pH.
27	C	Methanogens are microorganisms that produce methane as a metabolic byproduct in anoxic conditions. Methane is not their preferred carbon source.
28	C	Cyanobacterial cells (blue-green algal cells) are larger and more elaborate than bacteria. In both organisms cell structure is typically prokaryotic like one envelope organisation with peptidoglycan wall, naked DNA, 70S ribosomes and absence of membrane bound structures like endoplasmic reticulum, mitochondria, Golgi bodies, plastids, lysosomes, and vacuoles.
29	A	Tobacco mosaic virus (TMV) is a single stranded RNA virus that infects a wide range of plants, especially tobacco and other members of the family solanacea. The infection causes characteristic patterns, such as mosaic-like mottling and discolouration on the leaves (hence the name). TMV was the first virus to be discovered.
30	D	Bacteria are microscopic organisms whose single cells have neither a membrane-enclosed nucleus nor other membraneenclosed organelles like mitochondria and chloroplasts.